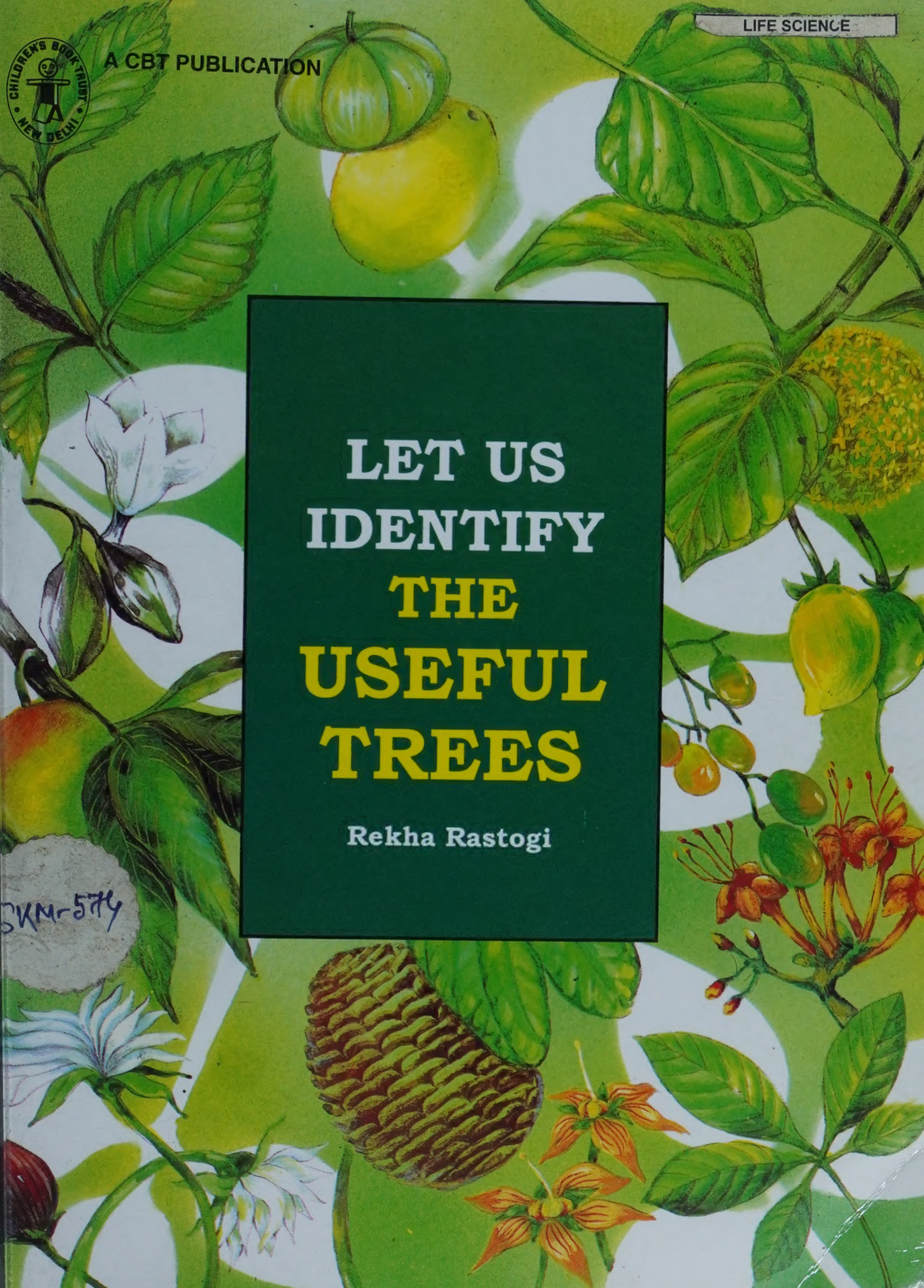
LIFE SCIENCE

A CBT PUBLICATION



LET US IDENTIFY THE USEFUL TREES

Rekha Rastogi

SKM-574

LET US IDENTIFY THE USEFUL TREES

By Rekha Rastogi
Illustrated by Ajanta Guhathakurta
Translated by Nandini Narang

1040
SHIKSHA MITRA
EDUCATIONAL RESOURCE CENTRE
Supported by : SWANIRVAR
62B, ALIPORE ROAD.
KOLKATA-700 027.
PH : 2479 9271
E-MAIL:shikshan...@...hoo.c...

Children's Book Trust, New Delhi

Aao Pehchanen Upayogi Vrikshon Ko was an entry in the Category Natural Science in the Competition for Writers of Children's Books organized by Children's Book Trust. This is an English translation of the book.

EDITED BY GEETA MENON AND SEEMA SINHA

Text typeset in 11/14 pt. Bookman Old Style

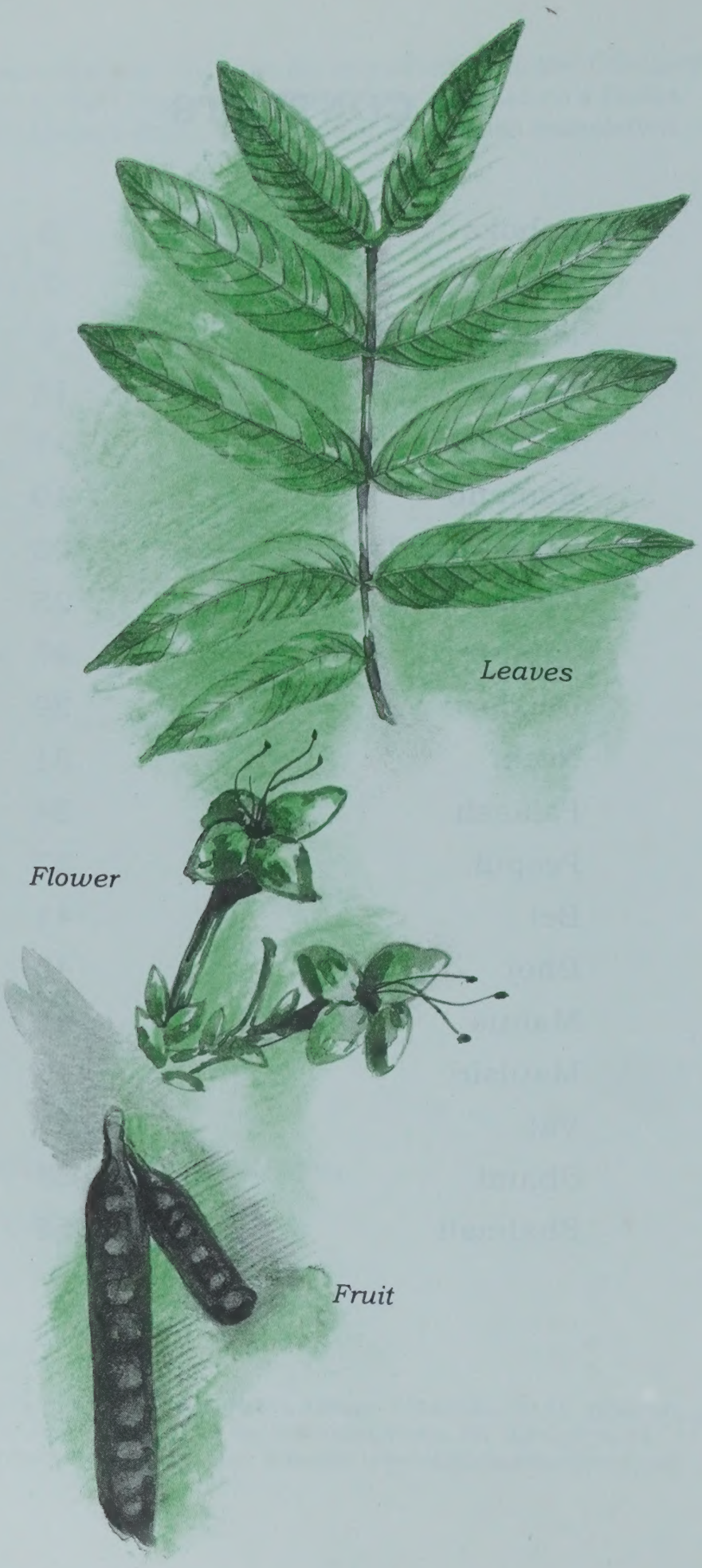
© by CBT 2002
Reprinted 2004

ISBN 81-7011-919-7

Published by Children's Book Trust, Nehru House, 4 Bahadur Shah Zafar Marg, New Delhi-110002 and printed at its Indraprastha Press. Ph: 23316970-74 Fax: 23721090 e-mail: cbtnd@vsnl.com Website: www.childrensbooktrust.com

CONTENTS

Ashoka	5
Arjuna	7
Mango	9
Aamla	13
Kachnar	17
Kadamb	19
Christmas Tree	23
Chyur	25
Jamun	27
Deodar	29
Neem	31
Palaash	34
Peepul	37
Bel	41
Bhoj	45
Mahua	46
Maulsiri	49
Vat	51
Shami	53
Shalmali	55


Leaves
Flower
Fruit

Ashoka

ASHOKA is counted among beautiful trees. These trees are found everywhere in India except at higher altitudes of the Himalayas.

A mention of the tree is found in Valmiki's *Ramayana*. In Sri Lanka, in the *Pramadavana* (arbour) of Ravana, thick, shady trees of ashoka were planted in a beautiful garden, and Sita sat under one of them. One of the five trees which Rama planted in Panchavati during his exile, was ashoka.

Ashoka is famous in India and Sri Lanka. This tree is planted in gardens and on roadsides in Malaysia and Myanmar. Dense, undulatory, green and yellowish leaves enhance the beauty of the tree which resembles litchi or *nagkeshar* trees. For this special quality, Emperor Ashoka got these beautiful trees planted on either side of the state highways.

The Sanskrit name for the tree is *ashoka* or *gatashokah* which means 'devoid of sorrow'. The botanists call it *saraca indica*.

Nowadays attractive varieties of the tree adorn parks, gardens and compounds of houses and bungalows. The height of such trees is usually between seven to ten metres. The tree is unique for its height, and very useful too. William Jones, praising the tree wrote, "There is perhaps, no tree in the plant kingdom more beautiful than a flower-laden ashoka."

Blossoms of the tree look colourful because of a synthesis of reddish-green, light yellow and bright orange colours, and as the flower blooms, it becomes iridescent. In the reddish variety of ashoka, bright red flowers bloom in the summers. On reading and hearing about the various descriptions of ashoka, it appears as though it has many varieties.

Ashoka tree is of great importance from the point of view of Ayurveda. Medicines made from its buds, flowers, bark and roots cure many diseases. It is believed that its bark and root are helpful in mending broken bones.

It is a common belief that if one eats eight buds of ashoka on the eighth day of the *shukla-paksha* (the fortnight of the waxing of the moon) in the month of *Chaitra* (March-April), all sorrows

vanish. Ashoka has tremendous religious importance as well.

The wood from ashoka tree is used for *havan* (fire sacrifice) in south-western India. The entrance doors of the houses are adorned with *vandanvars* (strings) made of ashoka leaves. It is generally used on all auspicious occasions.

The Buddhists worship the tree with great reverence. They believe that Lord Buddha was born under this very tree.

The ancient poets describe the magnificence of ashoka in woods, arbours of palaces, public parks and gardens. There was a legend about the red variant of ashoka that it flowered only when some beautiful damsel struck it gently with her foot. This act was performed with much pomp and show in the form of a festival. There is a vivid description of the celebration of this festival with great enthusiasm in Kalidasa's play, *Malavikagnimitram* However, there is no scientific basis for ashoka tree flowering on a foot-strike by a beautiful woman. The tradition probably existed during the Kushan and Gupta periods. Along with the poets, the sculptors too have depicted the scenes of foot-strike in their creations. The Kushan and Gupta age sculptures housed in the Mathura museum depict a *yakshini* striking an ashoka tree with her foot. In the Lucknow museum a woman astride a crocodile is shown striking an ashoka tree with her foot.

The important position that ashoka tree held thousands of years ago, remains the same even today.

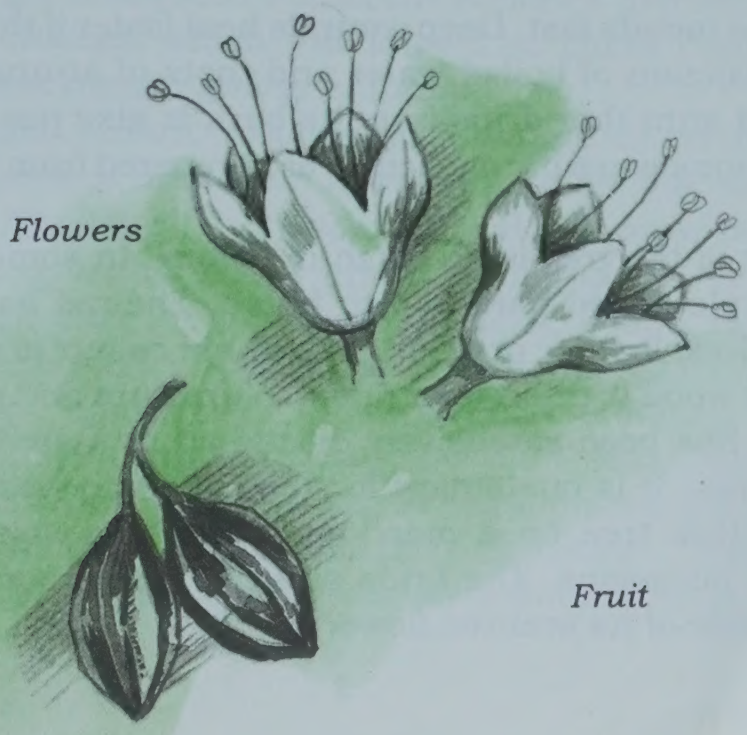
Arjuna

Arjuna is an evergreen tree which grows in the plains of India. This medium-sized tree is abundantly found in jungles, and can also be seen in parks and gardens of cities and villages. It resembles a guava tree. The leaves and bark of the tree are also like those of a guava tree.

Arjunah, and *Kukubhah* in Sanskrit, in Hindi it is called *arjuna, kaahu* and *kahua.* Its botanical name is *terminalia arjun.* Arjuna is an important tree amongst useful trees, with scented and beautiful flowers. Yellow blossoms with pollen appear on the tree in summer. Its small, green and white flowers bear a very strong and sweet smell. It fills the atmosphere with its intoxicating sweet smell.

In some places arjuna tree is also found to be tall. The height of a tall tree is about eighteen to twenty-five metres and the width ranges from three to nine metres. It is commonly found in Uttar Pradesh, West Bengal, Madhya Pradesh and south India. The shape of its leaf is like that of the human tongue. The stalk behind the leaf has two nodes, which are visible from outside. Its fruit ripens between *Sharad* and *Shishir* seasons, that is, between November and January.

The flowers, fruits, roots, bark and wood of arjuna tree are all



Flowers

Fruit

Leaves

very useful. A medicine for heart disease is prepared from its bark and root. It is believed that the powder of its dried fruits is used as a medicine for treatment of certain diseases. In case of a fracture, the administration of this powder relieves pain and the broken bone mends fast. Deep wounds heal faster if they are washed with a concoction of boiled water and roots of arjuna. The golden, transparent gum that drips from its bark is also put in medicines. Nowadays homoeopathic medicines are prepared from different parts of the tree.

The bark of the tree is greenish in colour. In some trees, white, brown, purple or red bark is also found. The red bark is used for dyeing clothes, leather or wood. The khaki colour is obtained from its bark. Its wood is utilized for making furniture and packing cases.

The tree has been extensively discussed in Ayurveda and other literary works. It is customary for the tribals to wear a garland of flowers of this tree on a marriage, birth of a son, or on other auspicious occasions. The bride and the bridegroom are made to wear garlands of its scented flowers.

Mango

THERE is a legend about mango that once Manu requested Brahma, the creator of the universe, "Lord! grant us a fruit full of sweet juice, which has the fragrance of flowers, sweetness of fruits and nutrition of cereals. Also, let it be accessible to all, rich and poor."

Brahma said, "*Evamastu*" (so be it) and poured a few drops from his *kamandal* (a special pot used by mendicants). After some time tender shoots of mango sprouted at that spot. Men and women were delighted to see the tiny shoots. Since then, mango is dear to all, prince and pauper.

Humankind's familiarity with mango is very old. Its groves are being planted from nearly 6,000 years. A fruit resembling mango is found among the artefacts discovered from Harappa and Mohenjo-daro. Emperor Ashoka considered it to be foremost amongst fruit-bearing, shady trees. A captivating depiction of the mango fruit is found on the pillars and *torans* (pylans) of Sanchi and Bharhut, and on the wall painting of Ajanta. Amir Khusrau referred to mango as the 'King of Indian fruits'. The Mughal emperors, who had a predilection for gardens and trees, liked mango very much. They got large groves of mango planted and derived its several varieties. According to *Ain-i-Akbari* of Abul Fazl, Akbar relished mangoes so much that he got mangoes of different varieties planted in a large garden in Darbhanga, which was known as Lakhi Bagh and was one of the largest mango groves of India.

Mango is called *aamra*, *sahakar*, *rasaal*, and so on in Sanskrit. Its botanical name is *mangifera indica*. Its native places are India, Myanmar and Thailand. Many species and sub-species of mango are found, owing to this it has innumerable names. A species of mango is named after its appearance, colour, shape, taste, smell, and so on. These names are: 'totapari', 'karelia', 'gundu', (looks), 'safeda', 'zafran', 'sindooria', 'suvarnarekha' (colour), 'pansera', 'haathi jhool' (shape), 'atimadhuram', 'doodhia', 'sharbati', 'mithwa' (taste), 'saunfia' (odour), and so on. In some places mangoes have also been named as 'Humayun-ud-Din', 'Jehangir', 'Nisarpasand', 'Rahmatkhas', 'Mudappa', and so on, after the names of kings and

landlords. Cowasaji Patel variety of mango is named after the gardener who derived it.

Besides these some names are poetic and some represent a class of administrative officials. For instance, 'dilpasand', 'Husn-e-Ara', 'manoranjan', 'collector', 'jailor', and so on. 'Dashehri', 'langra', 'hapus', and 'chausa' are its famous varieties.

Westerners have shown a special interest in the development of mango. The Portuguese rulers of Goa had a special liking for mangoes. The credit for developing a variety of mango called 'paayari' is attributed to their proficiency in making stalks. The 'Alphonso' (hapus) variety of mango was discovered by a person called Alphonso.

Mango is now an international fruit. Foreigners too relish it like us. Historical sources tell us that Alexander first came upon mango in the Indus Valley in 327 B.C. In the year 1931, in the Somali region of Africa, mango groves were planted by grafting stalks.

Around 16th century, mango trees were being planted in large numbers in the coastal regions of the Persian Gulf. Plantation of mango trees had started in the year 1690, in England and in the 18th century in Brazil, in South America. The merchants of Spain started mango-plantation in 1778, and its trees were planted in Mexico. In 1833 and 1868, its stalks and plants reached Florida and West Indies. Mango reached the Hawaii group of Islands and Australia in 1870. Today fresh research is being done on varieties of mangoes there.

Mangoes are wrapped in tissue paper and kept amidst hay and exported, packed in pint wood boxes or bamboo baskets.

In India mango is found from the foothills of Himalayas to the sea coasts. From rocky land to fertile plains it grows, prospers and bears fruit everywhere. Mango trees grow up to 1,000 metres above sea level. Heavy rain is harmful to its crop between the appearance of blossoms and the harvest of fruits. Eight to ten years after its stalk is grafted or a shoot is planted, a grafted tree yields 20 to 2,000 mangoes, and a tree of suckable variety yields up to 10,000 mangoes. If well looked after, the tree yields a good crop every third year. Since temperature varies in different parts of the country, the mango yields fruit at different times. The sequence of appearance of new shoots begins in the south and later comes towards north India. In Chennai, Kerala, Orissa, Andhra Pradesh, Karnataka and Maharashtra, mango is available from March onwards. In Bihar,

A branch with fruits and leaves

Uttar Pradesh and Punjab it is plentiful in June-July.

Mango fruits contain more nutrients than other fruits. It is used in raw, ripe, suckable and pulpy fruit forms. Suckable mangoes, also known as *desi* mangoes, are more useful and easily digestible than the ripened varieties. Mangoes that ripe on the tree are considered more nutritious and tasty. Nowadays carbide is used to ripen mangoes faster. This diminishes the quality as found in naturally ripened mangoes and the taste is also not natural. Mangoes ripened in leaves, paper or hay are better in comparison. A ripe mango contains nutrients such as vitamins A, B, C, base, protein, potassium, iron, calcium, phosphorus and carbohydrates. A ripe mango weighing hundred grams contains 50-60 calories. Raw mango is bilious on account of being rich in citric acid.

Flowers or blossoms

Ancient physician

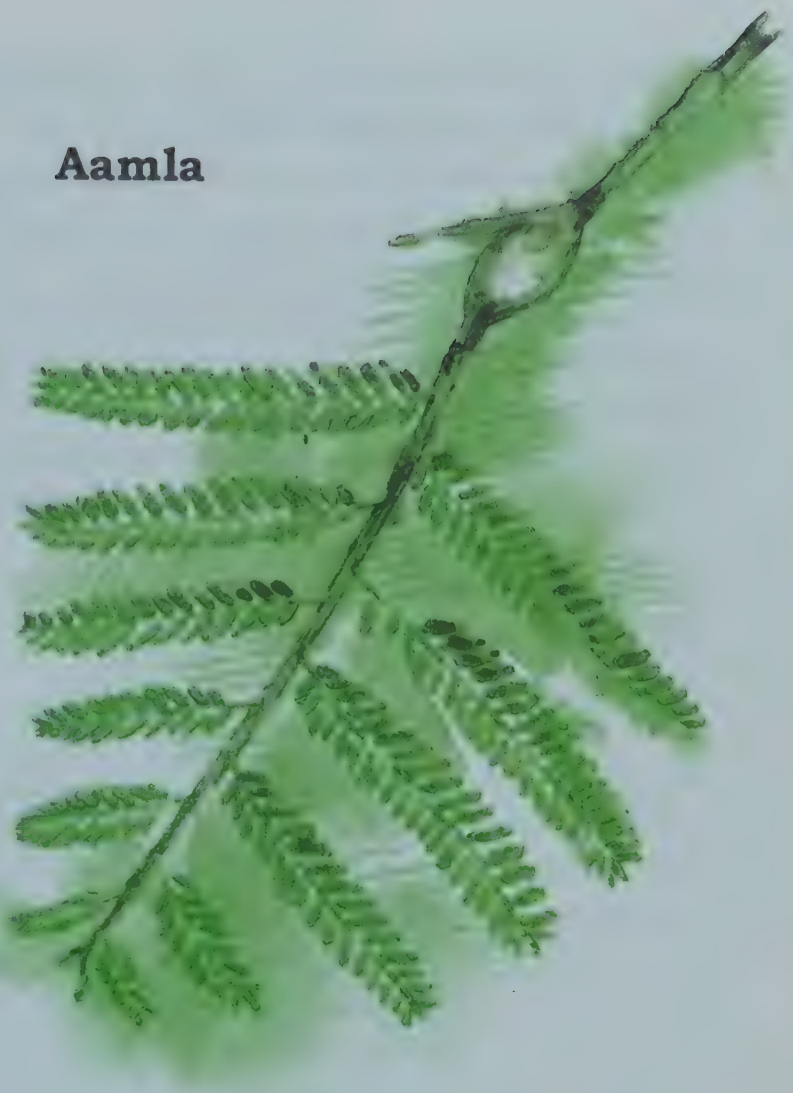
Sushruta considered mango to be good for heart and lungs and a nourisher of the body. It enhances the memory power. Ayurveda tells the medicinal utilities of the blossom, seed, and bark of mango, besides those of raw and ripe mango. *Panna* (a drink) made from raw mangoes is administered to patients in case of heat-stroke. The poor mix the powder of dried mango seeds with wheat, barley or gram flour to make chapattis. Possibly this is the reason for the famous adage, *aam ke aam, guthhliyon ke daam*, that is, not only the mangoes, even the seeds are worth every penny.

Besides the mango, its leaves, bark, and wood are also useful. The strong wood of mango is used to make doors, windows and furniture. Together with the banyan, neem and peepul, mango is counted among shady trees.

In every region of India, a *vandanvar* of the leaves of mango tree is customary on religious ceremonies or any other auspicious occasion. For a *havan,* an *aachmani* (spoon or ladle) made of mango leaves is considered sacred. Its wood is used as fuel in *yagnas* (sacrifices). The Indian folk songs repeatedly eulogize the shade of mango trees; under which rural folk of India sing, swing and frolic, whether it is the joyous atmosphere of *Phaagun* (spring) or the *malhaar* (rain song) in the *Saawan* (monsoon) showers. Stressing the importance of mango, the Dharmasastras say that one who plants mango trees, begets joy and happiness in this world and reaches the heaven after his death.

An auspicious pot decorated with mango leaves

Aamla



Leaves

Aamla tree is thousands of years old. It is called *aamalaki* and *dhaatri* in Sanskrit. Its botanical name is *phylanthus amblica.* It belongs to the family of medium-sized trees with citrous fruits. Except for some very high mountainous regions, the tree is found almost everywhere in India. It is found in abundance in Madhya Pradesh. The leaves are very small and look like those of the *gulmohar.* Its slender branches grow upwards, surrounding the tree on all sides.

The tree bears fruit in large numbers from October to February. In the rainy season tiny, dusty white flowers appear on the tree. Its branches get laden with sweet-smelling flowers. Its fruit has a circumference of 4 cm to 9 cm and is round like a ball. It has slice-like stripes, resembling a melon, which look very attractive on it.

The fruit tastes sour when eaten raw, but if water is taken after eating it, leaves a sweet taste in the mouth. It is light green in colour and turns yellow when it ripens. The aamla fruit contains vitamin C in a good quantity. Aamla is good for health and is used to make medicines. Fresh aamla-pickle strengthens the sinews of the brain and improves eyesight. Sauces and pickles are also made from it which are beneficial for heart disease and jaundice.

Thousands of years ago, sage Chyavan prepared an *avaleh* (a semi-liquid medicine) called 'Chyavan-prash'. 'Trifala' has also been used in India since ancient times. This medicine is made from three fruits namely, *aamla*, *bahera* and *harad*. This cures diseases of stomach and eyes. Hair remain silky and soft if washed with 'trifala'. Aamla fruit is beneficial even after drying as its medicinal qualities are not diminished. It is very advantageous in diseases like scurvy caused by the deficiency of vitamin C.

The flower, fruit, root, trunk and leaves of aamla are all useful to human beings. The powder of its seeds is also used as medicine. Colour is obtained from aamla tree for dyeing leather, cloth and wood. Its wood does not decompose even if it remains in water for many days. Its wood is used to make pulley of the water-wheel of a well, boats and furniture. Manure made from its leaves is useful in fields to obtain a high yield of cardamom. A substance called potash is obtained from its leaves which is good for agriculture.

Fruit

Flower

Aamla holds an important place in the Hindu religion because of its many qualities. Lord Rama, along with Sita and Lakshmana built his abode in Panchavati, where he planted five trees. Aamla was one of them.

There is a legend that Lord Vishnu gave an exposition on salvation under this tree.

The tree is also associated with religious rituals. It is also said about aamla that it is beneficial to have a *vanabhoj*

(a feast in the forest) under the tree on a specific *Ekadasi* (eleventh day of the month). It has been found that aamla is beneficial for the mankind.

Leaves

Fruit

Flower

Kachnar

KACHNAR is reckoned amongst beautiful and useful trees. It is called *kuchhal* in local dialect. In Sanskrit it is called *kovidar,* and its botanical name is *bohenia variagta.* It got the name *bohenia* after the names of the twin English brothers, John and Casper Bohen. Both were botanists.

Many sub-species of kachnar are found. Of these the pint kachnar is most important. This tree is usually planted in gardens and on either side of roads for embellishment. It is mostly found in regions up to 400 metres above sea level and in the foothills of the Himalayas as well as in the eastern, northern and western parts of the country. This is a medium-sized, evergreen tree with dense leaves.

The middle part of its leaf is so pressed that it looks like two joint leaves. There are fine protruding lines on its leaves. The bud of kachnar flower is long, bearing green and pink tinge. The tree flowers particularly in *Sharad* (September-October) and *Vasant* (Spring) seasons and is loaded with white, pink, red and purple flowers. The scent of its flowers spreads far and wide.

The great poet, Kalidasa praises the beauty of kachnar in *Sharad* season in following words:

"When its elegant branches the soft wind swings, and delicate shoots and blossoms bloom aplenty, inebriated blackbees suck the dripping nectar, the kachnar tugs at the strings of every heart."

Kachnar is famous not only for its floral beauty, but the tree is dear to brave warriors too.

In ancient times, kachnar was the favourite tree of the Kshatriyas because they believed that it could defeat the enemy. The warriors used it as a weapon in the battlefield. This is a tree that rips the hard, rocky soil and grows. The Kshatriyas believed that sharp and pointed weapons made from its wood could pierce through the strong chest of the enemy. Kachnar was used as flag of a chariot in olden days. It is described thus in the *Ramayana* of Valmiki, "When Bharata was going along with his army to meet Rama in the forest, the charriot which he rode bore a flag made of kachnar."

Tantriks and Ayurvedic physicians find presence of some magical and medicinal properties in kachnar tree. It is believed that its buds

and flowers are beneficial for flatulence and joint pains. The kachnar tree is mentioned as the *taruraja* (king of trees) in the *Mantra Shastra*. Its bark is used for colouring furniture.

Kadamb

AMONG the scented flowers that bloom in the rainy season, kadamb has a special importance. This is a shady tree that is planted in parks and gardens. Modern man has very little information about the kadamb tree, its leaves, flowers and fruits. The tree is associated with Lord Krishna. Found in abundance in Vrindavan, Gokul, the land of Krishna, it is this kadamb under the shade of which Krishna, surrounded by cows, cowherds and *gopis* (milk-maids) played his flute. On the banks of the River Yamuna even today, there are many shady kadamb trees. This tree is called *kadamba* and *kutsitadga* in Sanskrit. Its botanical name is *neolamarkia kadamb*. The tree grows in the

A tribal woman wearing a garland made of kadamb flowers

Fruit

warm regions of India. This is an evergreen tree and is 20 to 25 metre high. Its leaves resemble the mahua leaves. The branches are long and spread out just like the jackfruit tree. Apart from India, the tree is found in Nepal, Myanmar and Sri Lanka.

Saffron-coloured, ball-like round flowers appear on kadamb tree in the rainy season. When it flowers, an intoxicating scent spreads in all directions. The Western scholar, William Jones writes about its scent—"The fragrance of its flowers perfumes the air so, that Indians compare it to the aroma of new wine." The fruits of kadamb are like small apples in shape and hang from its branches in large numbers. Tribals eat its sweet and sour fruit raw and also prepare a curry with it. Its fruit is used as a souring agent. The seeds of the fruit are ground to extract oil. This is used as fuel in lamps and as cooking oil. The wood of the yellow kadamb is used to make toys. Pulleys of wells and boats are made from its wood because it does not decay fast in water. Tribals wear garlands of kadamb flowers and also use its flowers and leaves as articles of worship. The leaves of the tree are used as *vandanvars*.

Frequent description of kadamb is found in the Buddhist and Jain literatures. There is mention of a Mahakadamb standing in the middle of a big pond in the *Mahaukkus Jataka*. In the book, *Divyavadana* of

the Mahayana sect, while describing the joy of a king, it is said that he was beaming with joy like a kadamb flower. In the Pali language it is called *kalamb*. Poet Kalidasa has given a description of many kadamb trees on the mountain, named Neech in Madhya Pradesh. In *Raghuvamsham*, the poet describes that the women of this region used pollen of the flowers of kadamb as body talc in the rainy season.

At the beginning of the rainy season the tribals break off a branch of this tree and fix it in the ground; all men and women dance around it beating drums and singing folk songs.

They regard the branch as *Indradhwaja* (the flag of Indra). Indra is the rain god. They appease Lord Indra by fixing the branch so that rains are plentiful.

Kadamb tree has been fascinating all Indians with its incomparable natural beauty. This is like a banner of beauty of the rainy season.

Christmas tree decorated with gifts

Christmas Tree

CHRISTMAS tree is an evergreen tree of the mountains, similar to cedar. It is a tree of the pinus category, that is, pointed at the top and spreads out towards the bottom. It holds a prime position among the vegetation of cold regions. The trees are at their prime during the winters, when it is snowing all around, with dark green leaves on each branch. Its leaves are pointed at the tips and are slanted, on account of which much of the snow slides and falls off the edges of the branches. A little snow covers its branches which makes the tree look more beautiful. This mountain tree of the pine or fir species has been chosen for Christmas because each of its branches projects from it making a symmetrical cone with the trunk. The naturally-formed symmetrical cone of the tree gives the impression of the cross of the Christian religion. For this reason the tree has become an essential and important part of the Christmas celebrations. This evergreen tree is either grown at home for beautification or its branches are bought from the market during the Christmas festival.

Several myths are associated with Christmas tree as for being considered holy and with the practice of decorating it. According to one legend when Jesus Christ was born, many gods and goddesses had come to congratulate the parents on the birth of their son. While coming through the mountains, the gods and goddesses found this tree very beautiful. They took the tree, adorned it with pearls and stars and gifted it to Jesus. Since then this tree is considered to be symbolic of the birth of Jesus Christ.

Some Catholics believe, seeing a decorated Christmas tree on the occasion of Christmas rids one of all illnesses and brings wealth and prosperity. As per their belief gods and goddesses astride the tree and bless everyone.

The European books mention that in 1841, Prince Albert of England decorated Christmas tree himself in the Windsor Palace. Along with other decoratives, he placed an idol of God atop the tree. Till then there was no tradition of placing an idol on this tree in Europe.

The world's highest and largest Christmas tree in a park at North

Carolina, U.S.A., is a wonder in itself. It is about 30 metre high and about 35 metre in circumference. It is beautifully decorated during Christmas. The festivity lasts for seven days. On the last day of the fair, the toys decorated on the tree are distributed among children as gifts.

Chyur

Chyur tree grows in high altitudes of the Himalayas. This tree is found in the regions with an altitude of 500 to 1200 metres. It is called the Indian butter tree in English. Its botanical name is *bacia butarcia*. Chyur tree is found mostly in the regions extending from the mountainous area of Kumaon in Uttaranchal and the valley of Kali river in Pithoragarh to the fringes of Nepal. In the Tarang block of Arunachal Pradesh and around Bhutan too, some chyur trees are found.

Chyur tree resembles an umbrella. This tree is large and shady with dense leaves, just like the mango tree. Its leaves too are long like mango leaves. Its fruit is plump around the centre and tapering at the ends like a *tumbi* (a small gourd). Its skin becomes thick on ripening. When the seeds inside ripen, it sounds like a rattle. The most important quality of this tree is that it yields honey, jaggery and ghee. People in the mountains call it the *Kalpavriksha* (tree of paradise).

Fertile, moist soil is required for planting and growth of chyur tree. It bears fruit ten years after being planted. It bears flowers and fruit from October to January. As this tree blossoms, the atmosphere becomes fragrant and fascinating. Innumerable bees that make

Leaves and fruits

honey from the nectar of the flower begin to hover on the white and pale yellow flowers. This honey is of high quality, full of nutrients and is thus advantageous for health.

As the tree is laden with innumerable flowers, the local people shake its branches and fill large vessels with the flowers; extract the juice and boil it to make jaggery. This jaggery tastes like one made from sugarcane or palm. Ayurvedic physicians use it as medicine. Its fruit tastes delicious. Its ripe fruit is yellow in colour. After eating the sweet fruit, the seeds are dried, peeled and grounded. The powder is cooked well and allowed to cool. On cooling, the oily white substance that appears on the surface is called the butter or ghee of chyur. It is used to cook *pakwans* (special fried puddings). Like the oils of groundnut or sunflower it does not need to be processed because it is already white and thick. Local people massage with this oil in case of gout and joints pain, for it has medicinal properties. Women use it as a make-up accessory. In winters the oil is applied on dry and chapped feet and lips. Many cosmetic industries in India use a chemical called palmolic acid which is made from this oil. In earlier times, this chemical was imported from abroad. Its oil is also used to light lamps just like the kerosene oil.

The oil cake left after extracting oil from the seeds is used as manure in the fields. This manure has the property of killing pests that can harm the crop.

Its oil cake contains a pesticide chemical, saponin. If this chemical is separated from the oil cake, it can become a nutritious food for animals.

An average chyur tree yields about two quintals of seed. The quantity of vegetable oil in these is 45 to 55 per cent. About 70 kilos of ghee can be obtained from one crop of a tree. The scarcity of edible oil can be reduced by planting chyur trees. Chyur tree contributes greatly towards prevention of landslides and soil erosion. Its broad and long leaves have the ability to collect soil, water and food materials.

Jamun

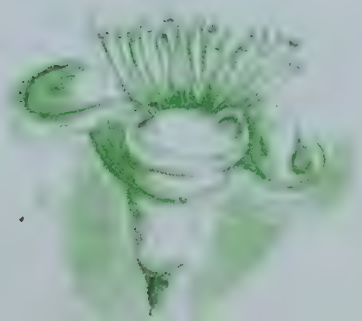
MANY people may have heard the story from the *Panchatantra* in which the monkey who lived on a jamun tree used to feed a crocodile with sweet and delicious jamuns.

Jamun tree is thousands of years old. Ancient poets and writers have described this tree. It is known as *jambuh* in Sanskrit. It botanical name is *eugenia jambolan.*

The tree is found almost everywhere in India except for some high mountainous regions. This tree is tall and densely foliated. The leaves are long, smooth and delicate. Its branches are very tender. At the onset of rainy season the entire tree appears black as it is laden with innumerable black and purple fruits. It is abundantly found in the central and southern parts of Malwa. Kalidasa in his *Meghadootam* gives description of dense forests and gardens of ripe jamun trees. Jamun has many varieties. The best variety is 'Pharena' which has a very small seed in it.

A branch with flowers, fruits and leaves

Flower with details



The jamun tree has the ability to absorb moisture from the atmosphere, so it is said this tree beckons the clouds. Some botanists and weather experts go so far as to say that if jamun trees are planted in large numbers then the erratic rainfall can be regulated.

Jamun fruit is relished not only by humans but by the birds and animals too; even pythons eat this fruit with fondness. Ramesh Bedi, in his book in Hindi, *Hamare Poshak Phal*, writes, "A fistful of jamuns was found in the stomach of the python which was killed by J.H. Michelle, the owner of the gardens of Assam."

According to Ayurveda, medicinal substances are present in jamun. The fruit is beneficial for health. It removes the impurities of blood, it makes the teeth firm and strong, and it is believed that it destroys bile and removes phlegm. Its seeds are dried and the powder made from it is considered to be advantageous for diabetic patients. Vinegar is also made from jamun. The bark, fruit, seed and root—all parts of this tree are very useful. It is believed that in cough and asthma it is beneficial to boil its bark and drink. The wood of jamun is not very strong, so it is used to make boxes for fruits or other delicate things.

Deodar

AMONGST the trees that grow on mountains, *deodar* deserves a special mention. Its Hindi name is *deodar*, and in Sanskrit it is called *devadaru*. Its botanical name is *cidrus deodar*. It is a Himalayan tree which is very big and tall. It grows at an altitude of 3,000 to 4,000 metres in the Himalayan ranges. In India vast jungles of deodar are found in Kashmir, Kumaon and Assam. It is also abundantly found in the jungles of Nepal.

Leaves and cone

The leaves of deodar are thin and pointed. Its girth is slanted from top to bottom. It has only one thick trunk around which slender branches spread upwards elegantly. Its wood is beautiful, light, fragrant and wheatish, golden-white in colour. Insects or termites do not infest it. The wood is hard and long-lasting, for this reason it is valuable for the industries. It has been widely used for building huge mansions and temples. Furniture, big boxes and such other items are made from deodar's wood. This wood is also used to manufacture seats for railway compartments.

Deodar tree is famous for its unique beauty, fragrance and strength. It is said that the tree is highly appreciated by the gods too. In some regions of the Himalayas the tree is also known by the name of *kailone*. The wood and the roots of the tree are fragrant,

light yellow in colour and greasy. Oil is extracted from its wood and it is known as *kailone* oil in the region. The oil is used for mixing in various chemicals and pesticides. Oil from the wood drips by itself when it is burnt. *Saral* is a tree of deodar family which is similar to it in qualities.

Kalidasa in the *Raghuvamsham* and *Kumarasambhavam* has described tall deodar trees in the section on the Himalayas. Parvati loved and cared for this tree like her son, Kartikeya.

Neem

NEEM is an evergreen tree. It is accorded the topmost position amongst the medicinal trees of India. It is called *Nimb* and *Prabhadah* in Sanskrit and its botanical name is *melia agadirachtaindica.* It is called margosa or Indian lilac in English. It has been growing for thousands of years in our country as well as in the neighbouring countries of Pakistan, Bangladesh, Myanmar, Sri Lanka, Thailand, and so on. It is a very ancient tree. There is a mythological belief about the tree that it was born from the *Amrit* (ambrosia) of the gods.

Neem is also referred to as 'chirharit' (evergreen) at some places. Its leaves are small and have cuts on their edges like a saw. Tiny light yellowish-white flowers appear on the tree after Holi and in the summer season it bears fruits which are called *nimboli.* Initially the green fruit is bitter, but after ripening they become yellow and sweet in taste.

Neem supplies oxygen in ample quantity. The tree contributes a great deal in purifying the polluted environment and making it healthy. It is believed that the possibility of catching disease is reduced by staying in the shade of neem.

The breeze from neem removes many ailments. It is specially beneficial in contagious diseases.

Although most parts of neem are bitter, yet not a single part is useless from medicinal point of view. Its leaf, tender shoot, branch, flower, fruit, bark, trunk and root are all used in the form of medicines. Use of neem leaves is beneficial in skin diseases. In summer if prickly heat or boils appear, bathing in the water in which neem leaves have been boiled gives relief. The use of its fruit also is beneficial in skin diseases. The medicine prepared from neem leaves is helpful in eye diseases. Its leaves are an unfailing medicine for small-pox in children. Pieces of green and tender branches of the tree are used like a brush to clean the teeth. Ripe fruits and tender leaves of neem contain protein, calcium, iron and vitamin C in sufficient quantity.

Toothpastes and soaps made of neem are widely used these days.

In the villages of India, neem fruits are dried and oil is extracted

Leaves

Fruits

Flower

from them which is used for manufacturing soap and medicines. In the villages, lamps are also lighted with neem oil. Neem oil gives out a strange smell and smoke on being burnt as a result of which flies, mosquitoes and germs in the atmosphere get destroyed. Neem oil is yellow in colour, bitter in taste and gives out a garlic like odour. Up to 50 per cent oil can be extracted from the neem fruit. The powder left after extracting oil is very useful and beneficial for agriculture. This powder is called the *khali* (oil cake) of *nimboli*. It is used as manure. If this oil cake is scattered in rice fields, there is less possibility of disease in the crop and up to 25 to 50 per cent of the urea fertilizer is saved. The fertility of soil increases and the yield also goes up sufficiently with the use of this oil cake in agriculture.

Today botanists are making continuous effort to develop superior and good varieties of neem. After much research the scientists have discovered aulic, stimaric, palmatic, linolic and aracidic acids in its oil. Compounds of sulphur are also present in it.

Mahatma Gandhi knew the many qualities of neem and regularly ate its tender shoots. Neem is very bitter in taste but it will come to us as a surprise that the goat eats neem leaves with relish.

Neem is undoubtedly a valuable and a very useful tree.

It has medicinal properties, and hence on roadsides and in open areas the plantation of neem trees should receive preference.

Different uses of neem

Palaash

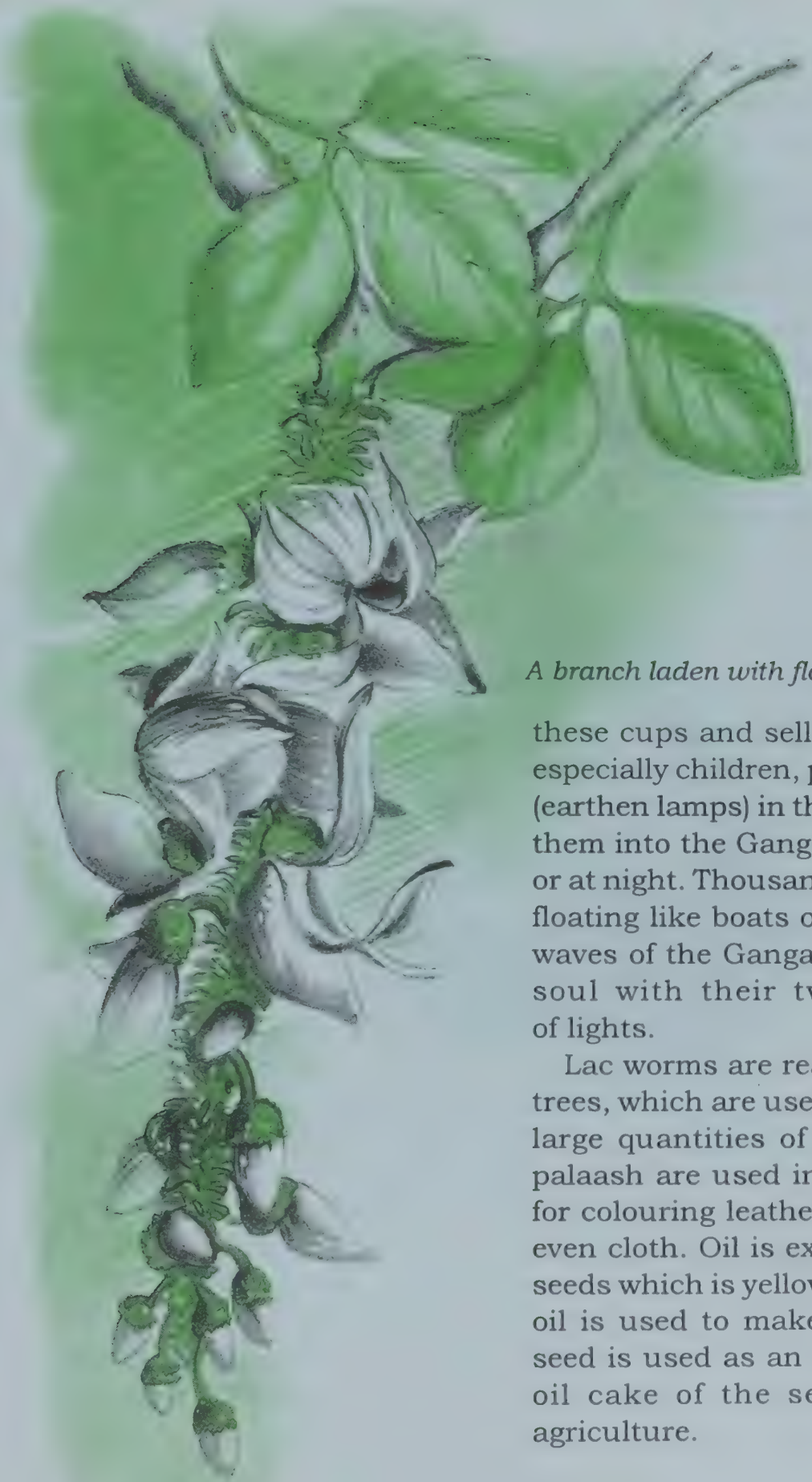
PALAASH is counted amongst the trees that bloom in the spring season. It is called *dhak*, *kinshuk* or *tesu*. It is a densely foliated, shady tree. Its stem has three broad, round leaves. The proverb 'again the same three leaves of *dhak*' is probably famous because of this reason. Its trunk, usually crooked, is about ten metres high. The botanical name of the tree is *beautia monosperma*. It is called *palaash* in Sanskrit.

On the arrival of spring, red, half-open flowers which resemble the shape of a new moon blossom. These are called *tesu*. The flowers resemble the beak of a parrot, so palaash is also called *kinshuk*. In summers all the branches of this tree get laden with innumerable flowers. The beauty of the flowers of palaash is unique. In the jungles when these flowers bloom in plenty, the entire jungle appears to be orange and red in colour. Sometimes the widespread orangish-red colour gives the impression that the jungle is on fire. For this reason it is referred to as 'flame of the forest', in English. Its flowers do not bear any smell.

The flowers on being boiled give yellowish-orange colour. People play with this colour on Holi. Amongst all colours, the colour of *tesu* is most suitable for health. Its colour dissolved in lukewarm water helps loosen the joints stiffened in winter, and gives relief from pain. In case of stomach disorders fomentation is given with warm water of *tesu*. Its roots and leaves have many qualities.

It is said that the historic battle of Plassey was so named because the place where the battle was fought was covered with jungles of palaash all around. This tree is found everywhere in India except the high mountainous regions and desert areas. This tree is also found in countries like Sri Lanka, Myanmar and Thailand besides India. In the opinion of the botanists palaash is very suitable to give life to alkaline soil.

Palaash is found in abundance in the marshy regions of the Ganga and around Faizabad. Palaash trees are found in big numbers in the jungles around Hardwar. People there make cups of its beautiful, broad and attractive leaves. This is their means of livelihood. The florists put multicoloured flowers, earthen lamps and incense in



A branch laden with flowers and leaves

these cups and sell them. Pilgrims, especially children, put lighted *diyas* (earthen lamps) in the cups and float them into the Ganga in the evening or at night. Thousands of these cups floating like boats or canoes on the waves of the Ganga fascinate every soul with their twinkling array of lights.

Lac worms are reared on palaash trees, which are useful for obtaining large quantities of lac. Flowers of palaash are used in making colour for colouring leather, furniture and even cloth. Oil is extracted from its seeds which is yellow in colour. This oil is used to make medicines. Its seed is used as an insecticide. The oil cake of the seed is used in agriculture.

In fact, palaash tree is a unique adornment of woods and forests. If this tree, the flowers of which bloom in clusters, is planted on both sides of roads of towns and cities and in big parks, the atmosphere will become pleasant and the environment will also be saved from pollution.

Peepul

PEEPUL is a densely foliated, shady and beautiful tree. It is called *pipal, peepal* or *peepar* in Hindi and *pippalah, ashwatthah* in Sanskrit. Its botanical name is *ficus religious.* In English it is called peepul, the sacred tree. This is an ancient tree. On a broad tile found in the excavation at Mohenjo-daro, figure of a tree has been found, the leaves of which are thick in the middle, pointed in the front and have a thick vein in the centre. On both sides of this, small protruding veins are embossed. The image is about 3,500 years old. Archaeologists and botanists are of the opinion that this tree is similar to the peepul tree. Peepul tree was revered in the human society of that age also.

Peepul is called *ashwatthah* in Sanskrit. Lord Krishna accorded peepul the highest place amongst all trees by calling it *ashwatthah sarvavrikshanaam* (ashwatthah of all trees) in the tenth chapter of the *Gita.* In the *Vishnupurana* too the importance of peepul is mentioned. Peepul is the symbol of Lord Vishnu, thus the different parts of the tree are considered to be the abode of Brahma and Shiva.

In the *Vishnupurana* in order to give an idea of the enormity of the tree, it is even said that just as an enormous peepul tree is hidden in a small seed, so is this entire universe inherent in Brahma (Supreme God). There is a popular belief about the tree that by circumambulating this tree the worship of all the three Gods is accomplished.

At the ancient pilgrimage centre, Bodhgaya, in Bihar, the ancient gigantic peepul tree stands beside the temple of the Buddha. It is said that Gautama Buddha attained enlightenment under this very tree. He spent many years in rigorous penance under the tree. When Gautama attained absolute knowledge, the dense leaves of the tree were swinging with delight. Since then, this tree is called the *bodhivriksha* (tree of knowledge). Even today the followers of Buddhism look upon this tree with great reverence, keep its leaves at the place of worship and distribute them as offering made to the deity. On auspicious occasions such as, when a child starts going to school or at the beginning of other activities related to knowledge,

Leaves

Fruit

peepul leaf is kept as a symbol of knowledge, amongst the sacred objects for bestowing blessings.

Emperor Ashoka had great reverence for the Bodhi tree. Owing to his faith and devotion towards Buddhism, Ashoka worshipped this tree as per the rituals mentioned in the scriptures. He decorated the tree in various ways and beautified it. There is a legend about Ashoka's passion for the tree that he donated many necklaces of invaluable gems and pearls for the purpose of decorating the tree. When Ashoka's chief queen came to know about the cause of disappearance of gemstone necklaces from the treasury, she set the Bodhi tree on fire out of rage. It was a miracle that the tree did not burn completely even though it was entrapped in the leaping flames of the fierce fire. After the flame died down, within a few days tender shoots sprang from the bestially charred parts and once again the tree was swinging and blooming with all its glory. But the trouble did not end here.

In the seventh century, a ruler who was vehemently opposed to Buddhism cut off the tree and uprooted it. Yet the deep-set roots of the tree in the soil got a new lease of life with the rain water. The tree once again became green with branches and new shoots. Tolerant, brave and resolute as an ascetic, the tree also had to face the fury of nature. In 1876, the tree had to bear yet another hardship in a devastating storm. Owing to the impact of the storm, it was uprooted, it fell on the ground. The ardent followers of Buddhism then nursed the tree with great devotion, and it was considered a grace of Lord Buddha that the new shoots sprouted and thrilled the devotees.

The tree once again became an object of respect, and devotion for the Hindus and the Buddhists.

Peepul tree does not require much looking after. Chewed and half-eaten by the birds the fruits containing innumerable seeds, like those of figs, fall on the ground, rooftops and on walls of old buildings. Getting the moisture, the seeds germinate there itself. Sometimes branches of peepul are found hanging from cracks and behind drain pipes on the walls. As the tree is considered holy, the Hindus do not cut it off from there.

Peepul has a very long life. It so happens that in the hollows of the very old branches of the tree, the seeds keep falling, germinating and small trees keep growing from the branches. As the tree becomes

older, its roots surface on the soil while the root hairs go inside the soil, thus strengthening the roots. Many trees standing in Hardwar and Kankhal are thousands of years old.

Around the third and fourth century B.C., Buddhism had spread everywhere in Asia. At that time the tree was planted in far-off countries as a symbol of Lord Buddha. In 288 B.C. one such plant of peepul was taken to Sri Lanka from India. The tree stands as a huge dense tree till this day. A department was set up to monitor the development of the tree and to keep record of the growth and the care taken from previous centuries.

Peepul tree is associated with many religious ceremonies of the Hindus. Its worship has a special significance.

The bark, leaves and wood of peepul tree are useful for man in many ways. The juice extracted from its bark is good for teeth and gums. Lac worms are reared on its broad leaves. Boxes and big containers are made from the wood of peepul in which goods are packed and sent abroad. In this way, the huge tree of peepul is useful in many ways and even today it is revered by the masses in India.

Bel

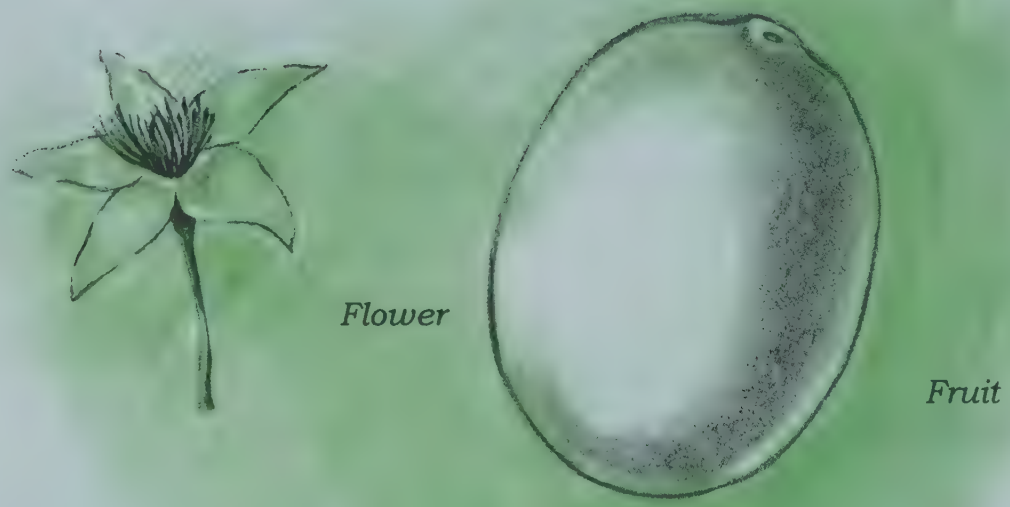
BEL is a deciduous tree which is mostly found in jungles. It is found in all the plains and valleys of India. At some places the tree also grows at an altitude of 1,500 metres. Usually the height of the tree is seven to ten metres. Some trees grow up to 17 metres in height. Its branches bear three or four leaves. There are big thorns along with the leaves. The tree blossoms by the month of February. The white and light green flowers of bel bear a sweet fragrance. They have a diameter of two-and-a-half cm and are found in small bunches. Its fruit is like a big ball. The circumference of its fruit has a diameter of eight to ten cm. The rind of the fruit is hard and becomes orange or yellow in colour on ripening. The pulp inside is yellow with white seeds.

Bel is known in almost all the states of India. Its name differs in some places. Usually, it is called *bilvaphal*. It is called *maredu* in

Leaves

Telugu, and *bilva* or *shivadruma* in Sanskrit. Its botanical name is *aigal merwelos*. In English, it is called Holy fruit tree.

There are many varieties of bel. The fruit of the best variety is big and has a thin rind. Its taste is sweet and has a cooling effect. Another variety of bel tree bears small fruits. It is called *kath bel*. This variety is not used for eating, and is used for making gum and such other products. It bears fruits in larger numbers. The fruits hang from the



Flower

Fruit

branches all the year round, and take one full year to ripen.

The fruit and wood of bel is very useful to mankind. The pulp, leaves and seeds of the tree contain oil. Its fruit contains nutrients like protein, calcium, phosphorus, and carbohydrates.

Bel trees, when planted on roadsides and in parks in villages and cities, provide cool shade and purify the air. It also helps prevent droughts.

Sushruta, the ancient physician, states that the fruit of bel is beneficial for health as it removes disorders of the stomach, heals wounds and mends bones.

Bel wood is used for *havan*. The leaves are offered to Lord Shiva. Bel was one of the five trees planted by Lord Rama at Panchavati during his exile.

In olden times bel was also used to build houses. Its pulp contains a very strong adhesive. By adding some ingredients to the pulp, it was used as solid cement. The walls and roofs of houses constructed from this ancient cement lasted for hundreds of years.

Bel tree is useful to protect the environment from pollution.

Leaves

Bark

Bhoj

BHOJ is a mountainous tree. It is found at an altitude of about 4,500 metres on the Himalayas. In Sanskrit bhoj is called *bhoorjah* or *bahulvalkal*. Its botanical name is *betula utilise*. It is called Himalayan silver birch and Jackmon tree in English. It is a medium-sized, bush-like tree. Its leaves are small. The bark is paper-thin, whitish-pink in colour and has light brown stripes on it.

In ancient times, when paper was not yet invented, saints and sages used to write manuscripts and letters on its bark. Its bark is called *bhojpatra*. The script on *bhojpatra* remains unaffected for thousands of years. Even today many manuscripts written on *bhojpatra* are preserved in many archaeological museums of India. Such manuscripts can be seen in the museum of Gurukul Kangri University near Hardwar.

There were many bhoj trees in the region around the Gangotri range of the Himalayas. However, owing to continuous felling of trees, the species is becoming fast extinct. Now only one or two bhoj trees remain at a place called bhojvasa, in Gangotri. If these trees happen to be destroyed, then we may not be able to sight a bhoj tree in India.

The great poet Kalidasa in his works, mentions the bhoj tree. In *Kumarasambhavam* there is a description of *bhojpatra* being used as raiment.

Mahua

THE beautiful trees of mahua are found everywhere in India, except for some higher mountainous regions. The trees are found in large numbers in the plains of Bihar, Uttar Pradesh, West Bengal, Madhya Pradesh and Orissa. These trees keep growing by themselves in jungles. They are planted and grown with great care in the parks and gardens of cities.

Mahua tree holds an important place in the day-to-day life of the tribals. It is like the *kalpavriksha* (wish tree) for them. Mahua is also called *madhu*. Its botanical name is *bascia langifolia*. The trees are deciduous, tall and give dense shade. Its leaves are broad and oval in shape, with pointed ends. The flowers are white, and full of nectar. The tree has a special quality; its flowers bloom after sunset and fall off before sunrise. Its flowers bear a strong intoxicating fragrance. In the spring season the flowers bloom in thousands. Atmosphere of the jungle at that time becomes fragrant with its intoxicating scent. Its flowers are sweet in taste. The tribals boil and eat the flowers, and prepare sweetmeats like kheer, with it.

Mahua is an integral part of the food, public life, festivals and

Flower with details

Leaves and flowers

Fruits

culture of the tribals. About 30 to 40 per cent of their food consists of mahua. They eat the fresh fruit raw. They make chapattis and various dishes from dried flowers and fruits. Dishes made from mahua are called *mahuari, rasputka, gulgula, saarlata,* and so on. They get almost all the nutritious elements like proteins, vitamins, fat, calcium and glucose from flowers and fruits of mahua. Seeds of mahua are also very useful. The tribals extract oil by grinding the seeds, which is used for cooking food and lighting up lamps at night. The seeds yield up to 40 to 50 per cent of oil. In the tribal society, those houses are regarded as prosperous, rich and respectable; which have a mahua tree.

A person who plants many mahua trees is honoured in the society. In the tribal community, be it a wedding or any other auspicious occasion, the flowers, fruits, leaves and branches of mahua tree are put into use. The bride is adorned with mahua flowers. Flowers are kept amongst the objects of worship in their religious ceremonies. Kalidasa in his work *Kumarasambhavam,* describes Parvati (consort of Lord Shiva) as wearing a garland of scented mahua flowers on her neck at the time of her wedding.

The government is encouraging the plantation of mahua trees in as large numbers as possible. The utility of the tree in dealing with the scarcity of edible oils is being increasingly realized.

Maulsiri

MAULSIRI is an evergreen tree in the category of fragrant and beautiful trees. It is also called *bakul.* In Sanskrit, it is called *bakulah;* and in English it is known as bullet-wood tree. Its botanical name is *mimusops elengi.* The tree gives dense shade. Its height may vary from six to sixteen metres. Its leaves are smooth, small and elongated, like those of jamun. Branches are very weak and grow upwards, making a circle round the trunk. Travellers get a good shade under this tree in summer.

Leaves and flowers

Flower with details

The tree bears fragrant flowers during summers. These flowers are very tiny and beautiful. It does not have broad, thin petals like other flowers. When the branches of maulsiri trees are laden with the flowers, the atmosphere around becomes fragrant with their light, pleasant scent. These flowers retain their scent even after drying.

In India, it is found almost in all regions. However, the tree does not grow in very high mountainous regions. Being a fragrant tree, it is planted in parks and gardens. Flowers, bark and wood of the tree are very useful. Perfume is made from its flowers which is used in oils and soaps. Its wood is reddish-brown in colour. The colour extracted from the wood is used to dye silk and cotton clothes. Garlands of its flowers are worn in summers. Maulsiri tree has been accorded great importance in literature because of its fragrance.

Vat

VAT is a shady tree with dense leaves. It is also called *bargad*. In Sanskrit, it is *nyagrodhah* and *vatah*. It is the banyan tree. Its botanical name is *Ficus benghalensis*. It is abundantly found in nearly all the regions of India. It is a tree of the fig species. People know it by the name of *kalpavriksha* in India. This *kalpavriksha* is the same tree which was one of the fourteen treasures that came out from the churning of the milk of ocean. Botanists differentiate between vat and *kalparvriksha*, however, they agree that they belong to the same family.

The tree is very huge and has a long life. Its leaves are smooth and broad, like those of the rubber plant, and is used as a decorative plant in homes and parks. When the tree grows old, its trunk becomes very stout, with a circumference of about 20 to 30 metres. Roots start growing out of its big and stout branches, which are called its *jatas* (matted hair). These fibrous roots gradually reach below the ground and get rooted there. In due course of time, they become strong and serve as pillars to support those very branches from which they emerged.

The fruits of this tree are small like those of fig. They contain

Leaves and fruits

innumerable tiny seeds. Monkeys relish these fruits. People living in jungles eat its ripe fruits with great relish. Ropes are woven out of the fibrous roots of the tree. Gum is prepared from the milk that oozes out of its bark. Innumerable birds nest on the tree because it has many branches and hollows in them. Bees too make their hives on this tree, which gives us honey. The banyan tree is usually not cut, but when its stout trunk becomes very old and lifeless, it is cut and boats and rafts are made from the wood. The milk and leaves of the tree are used as medicine. It is believed that the milk from the tree provides relief to cracks in the heels. If its leaves are oiled and mildly heated and tied on boils or swollen parts of body, they give relief from pain. The milk of the tree is also beneficial in backache and gout. Its shoots have energy-giving qualities. Leaves of the tree are used for making disposable plates and cups.

Vat tree is a symbol of immortality. Legend has it that Savitri left the body of her husband, Satyavan, under this very tree and went after Yamaraj (God of Death), and was eventually successful in getting back her husband's life.

There is a vat tree in a village near Ajmer, in Rajasthan, which is more than 200 years old. Such long-living trees are there in Prayag and Shukratal near Muzaffarnagar also.

It is mentioned in Valmiki's *Ramayana* that Rama and Sita planted a banyan tree at Panchavati. How ancient is this tree! It has an unbreakable bond with the Indian culture.

Flower with details

Shami

SHAMI tree grows in desert areas in large numbers. In local dialects, it is known by the names of *khejari* or *jaant*. Shami is a verdant tree with thorny branches. It has tiny green leaves. On the tree of another species, which is like catechu, there are red leaves. It is called *agnigarbha* (having fire in its womb) tree. Such trees are found in abundance in Bengal and Bihar. Wood of this tree, which has tiny red leaves, is very hard. The tree provides a cool shade in summers.

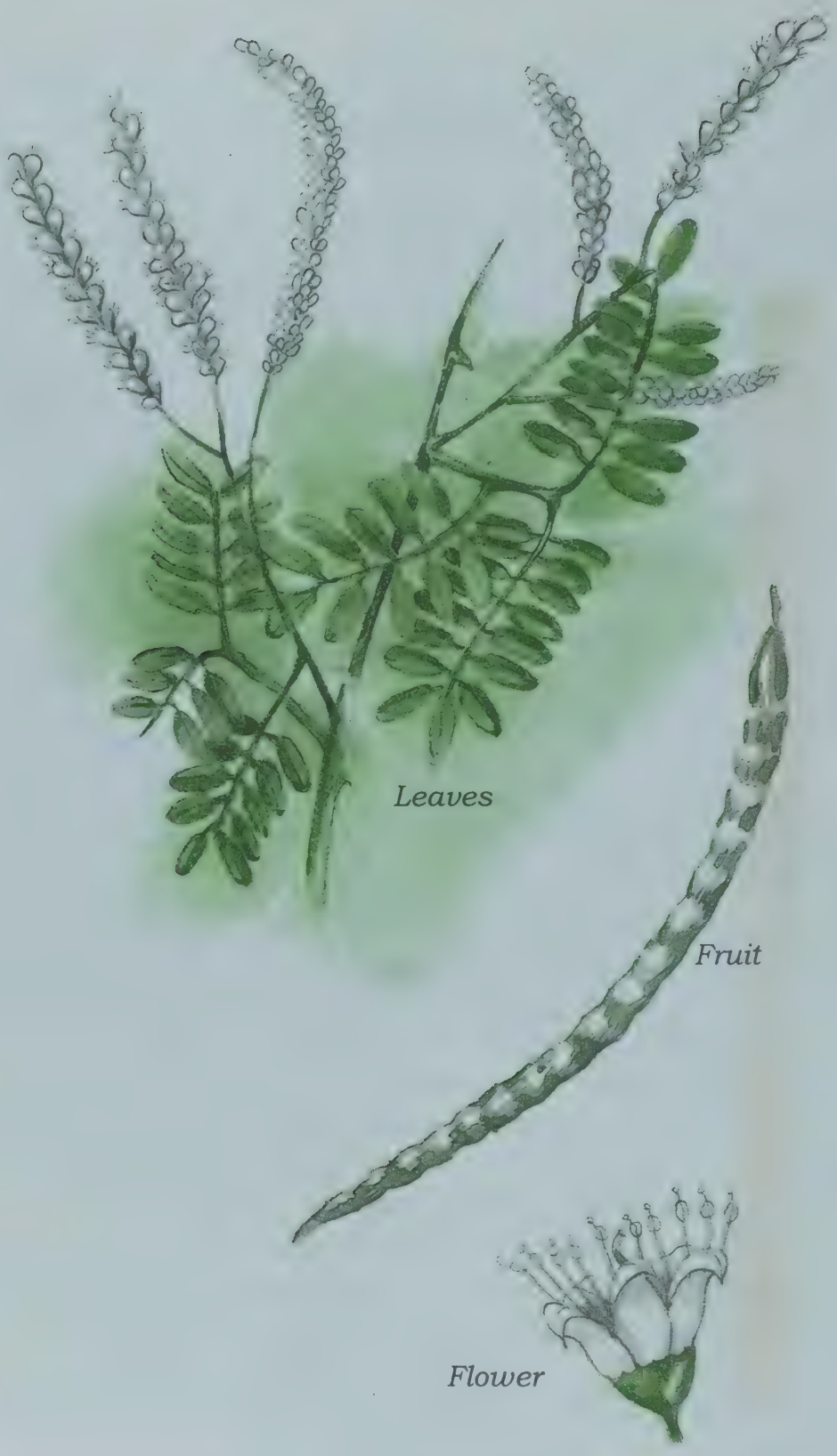
Shami tree is also found in other Indian provinces of Gujarat, Kathiawar, Punjab. The roots of the tree go very deep inside the ground. Botanists opine that in some regions of Rajasthan, its roots go as deep as 17 to 25 metres inside the ground. This prevents the erosion of the sandy soil of the desert. For this reason the tree stays green even when there is a drought. People of Rajasthan regard this tree as *kalpavriksha*, because at the time of drought when no grass or fodder is found anywhere, the animals are able to survive by eating its green leaves.

A delicious curry is made from shami's beans; it contains 14 to 18 per cent protein. The leaves, beans, roots of the tree are all useful to man. Its wood is used for building houses, making waterwheels, pulley for wells and agricultural tools for cultivation. Its wood can withstand high temperatures, and so it is called *agnigarbha*. It is considered sacred and is used as firewood in sacrifices. Kalidasa in *Raghuvamsham,* mentions the use of the wood of shami tree in the sacrifice, on the occasion of the marriage of *Indumati*.

Shami tree is worshipped on the occasion of *Vijayadashami*. It is a mythological belief that this tree is the conqueror of the world. It pacifies the enemy. Goddess of victory has her abode in it. In the *Mahabharata*, there is a reference that the Pandavas had kept their armaments hidden on this tree, during the time of their incognito exile.

The cowherds of the Agra-Mathura region of Uttar Pradesh call the tree as *chhonkar*. They regard it as the abode of gods. For this reason, they do not cut it even when it dries up.

People of Rajasthan have gained consciousness about the



environment with regard to this useful tree. The tree is a part and parcel of the folk songs and folk tradition of the area.

Shalmali

SHALMALI tree is very big in size, tall and provides dense shade. In local dialect it is also called *semal*. It is called *shalmali* in Hindi, and *shalmali* or *mocha* in Sanskrit. Its botanical name is *bombakes ciba*. It is called Red silk cotton tree in English.

The tree resembles a sal tree. Its branches are hard and pointed. Its trunk is thick and brown in colour. The tree has thick and strong triangular thorns. The tree grows up to 50 metres in height, and at about eight metres above the ground its circumference measures up to five metres. At the ends of the branches, the leaves hang like danglers. In each dangler, five or seven leaves hang together like petals of a flower. Each leaf has width of two-and-a-half to ten centimetres. In the spring season it bears big red flowers. The petals of the flowers are thick and big. The fruit resembles that of *aak*. On drying up the fruits burst, and soft, white cotton comes out from them. This cotton is very soft and smooth. Mattresses, quilts, cushions and pillows are stuffed with this cotton in India. The seeds of shalmali are also very useful for human life. Oil is extracted from the seeds which are black in colour. The oil is used as a mixing

Leaves

CBT
610277

Flower

agent in various chemicals. The gum which drips from the bark of shalmali tree is called *mocharasa.*

The flowers, fruits, seeds, fibre, wood and roots of shalmali are all very important. Delicious curry and pickles are made from its fruit. The wood is used for making tools for agriculture, building houses and for making furniture.

Shikshamitra
EDUCATION RESOURCE CENTRE
62B, Alipore Road, Kolkata -700027
Ph: 2479 9271

RETURN DATE SLIP

DUE DATE	DUE DATE	DUE DATE

Trees have an important place in our lives. Besides purifying the environment, the yields from the trees help us tremendously in endless ways. This book talks about some such trees.

Rs. 30.00
E 397
ISBN 81-7011-919-7